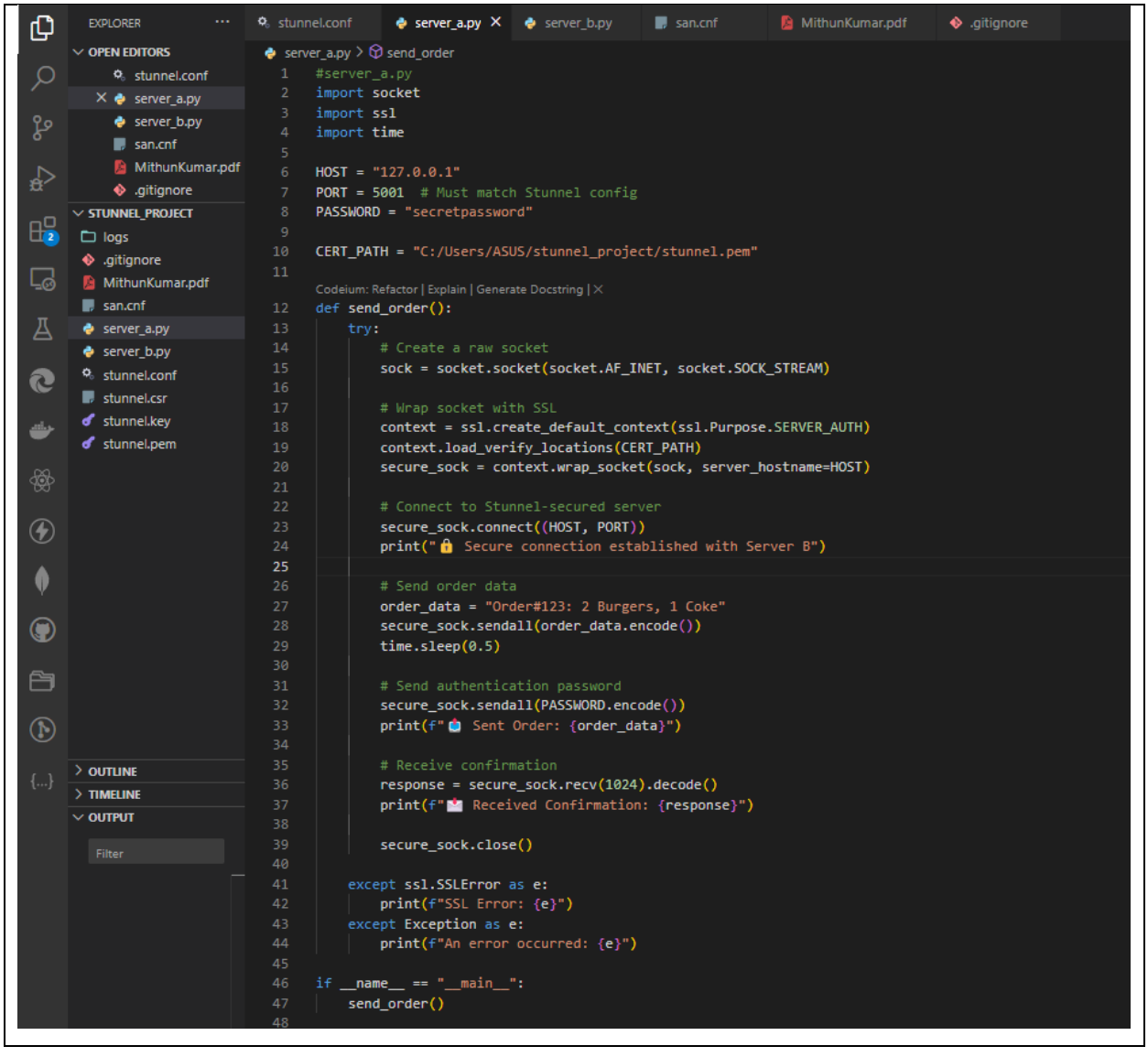
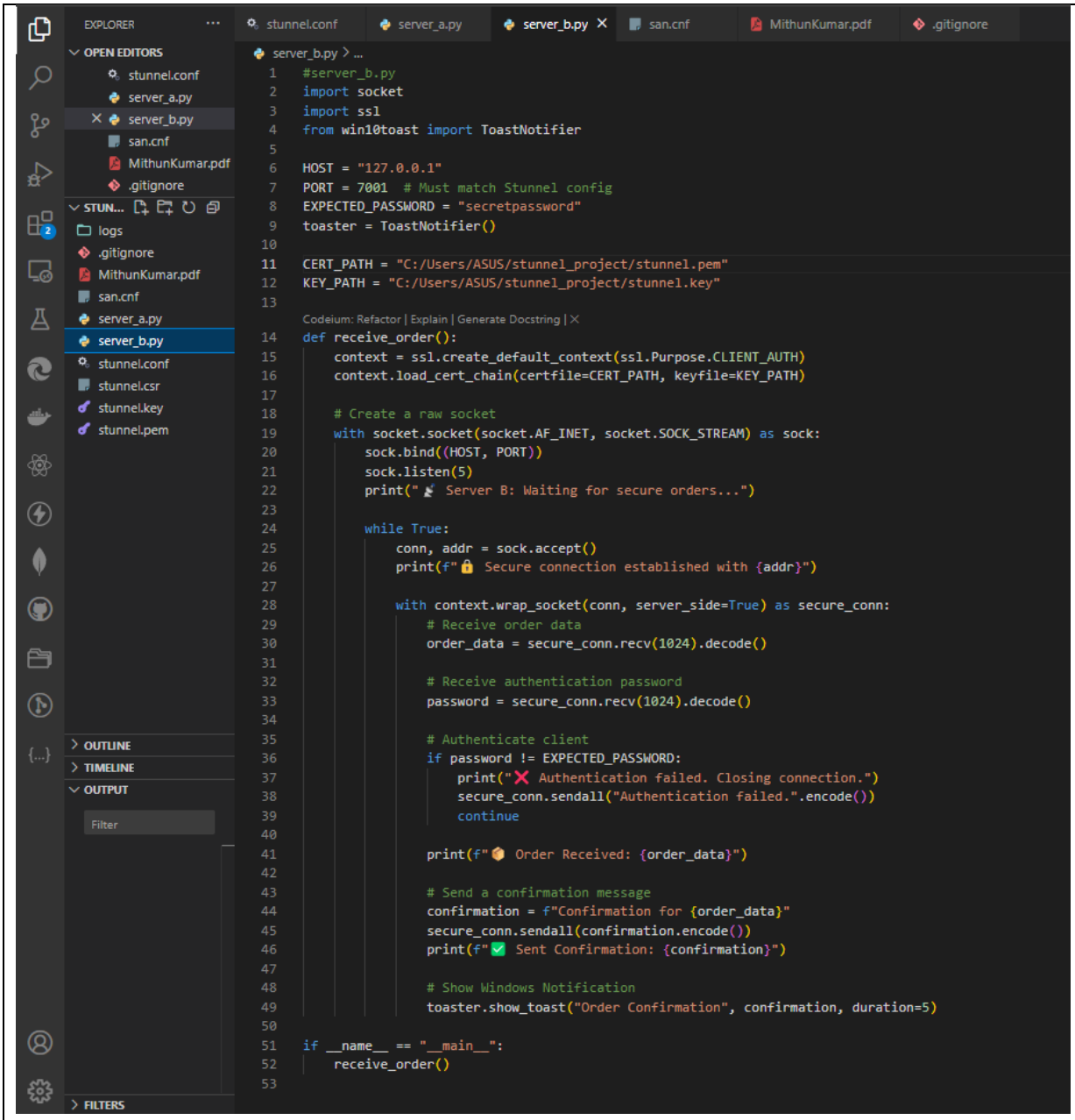
Future Enhancements for real orders

1. **Encryption and Secure Communication:** periodically rotating certficates and keys, ensuring they are kept secure. Update to automatic encrypt tool.
2. **Encryption of sensitive data:** encrypt sensitive order data such as customer information, order details before transmission. Using **symmetric algorithm like AES** for data protection. Also we can use **cryptography library** in python to encrypt data before sending it across the network.
3. Authentication and authorization: **JWT Token** authentication or **firebase auth token**, API Key or **Oauth** based authentication for more robust security.
4. **Asyncronous Order Processing** technique for improve performance, and Network performance optimization using **websocket** for real time server side updates.
5. **NoSql** database for flexibility and speed, because of **bigdata analytics**.

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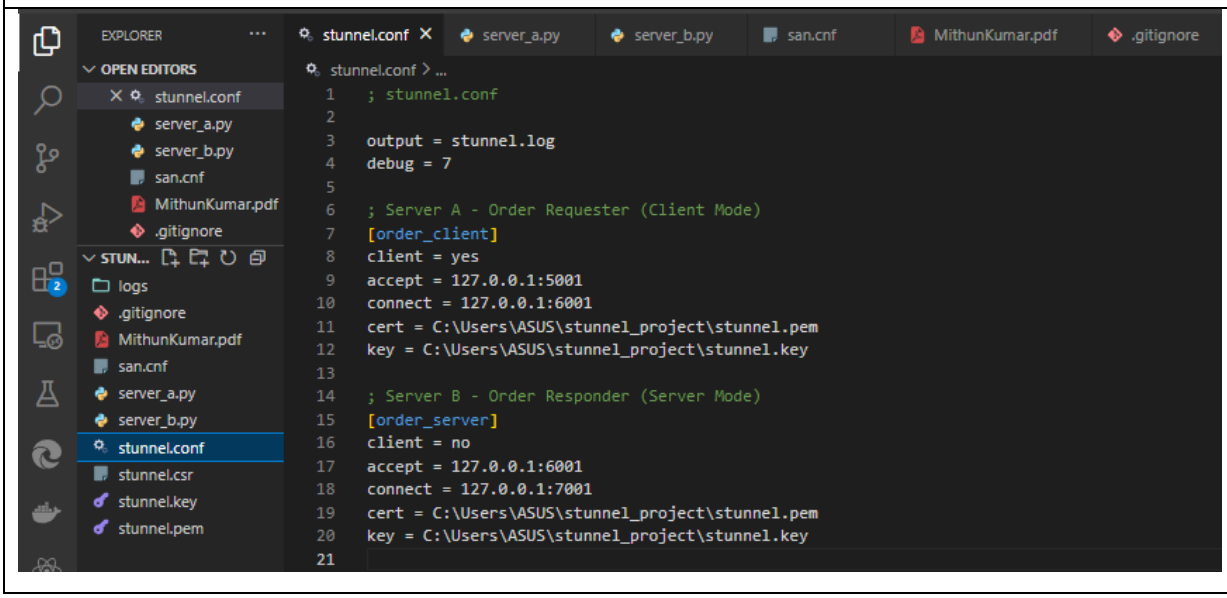
server_b.py > ...
#server_b.py
import socket
import ssl
from win10toast import ToastNotifier
HOST = "127.0.0.1"
PORT = 7001 # Must match Stunnel config
EXPECTED_PASSWORD = "secretpassword"
toaster = ToastNotifier()
CERT_PATH = "C:/Users/ASUS/stunnel_project/stunnel.pem"
KEY_PATH = "C:/Users/ASUS/stunnel_project/stunnel.key"
Codeium: Refactor | Explain | Generate Docstring |
def receive_order():
context = ssl.create_default_context(ssl.Purpose.CLIENT_AUTH)
context.load_cert_chain(certfile=CERT_PATH, keyfile=KEY_PATH)
# Create a raw socket
with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as sock:
sock.bind((HOST, PORT))
sock.listen(5)
print(" Server B: Waiting for secure orders...")
while True:
conn, addr = sock.accept()
print(f" Secure connection established with {addr}")
with context.wrap_socket(conn, server_side=True) as secure_conn:
# Receive order data
order_data = secure_conn.recv(1024).decode()
# Receive authentication password
password = secure_conn.recv(1024).decode()
# Authenticate client
if password != EXPECTED_PASSWORD:
print(" Authentication failed. Closing connection.")
secure_conn.sendall("Authentication failed.".encode())
continue
print(f" Order Received: {order_data}")
# Send a confirmation message
confirmation = f"Confirmation for {order_data}"
secure_conn.sendall(confirmation.encode())
print(f" Sent Confirmation: {confirmation}")
# Show Windows Notification
toaster.show_toast("Order Confirmation", confirmation, duration=5)
if __name__ == "__main__":
receive_order()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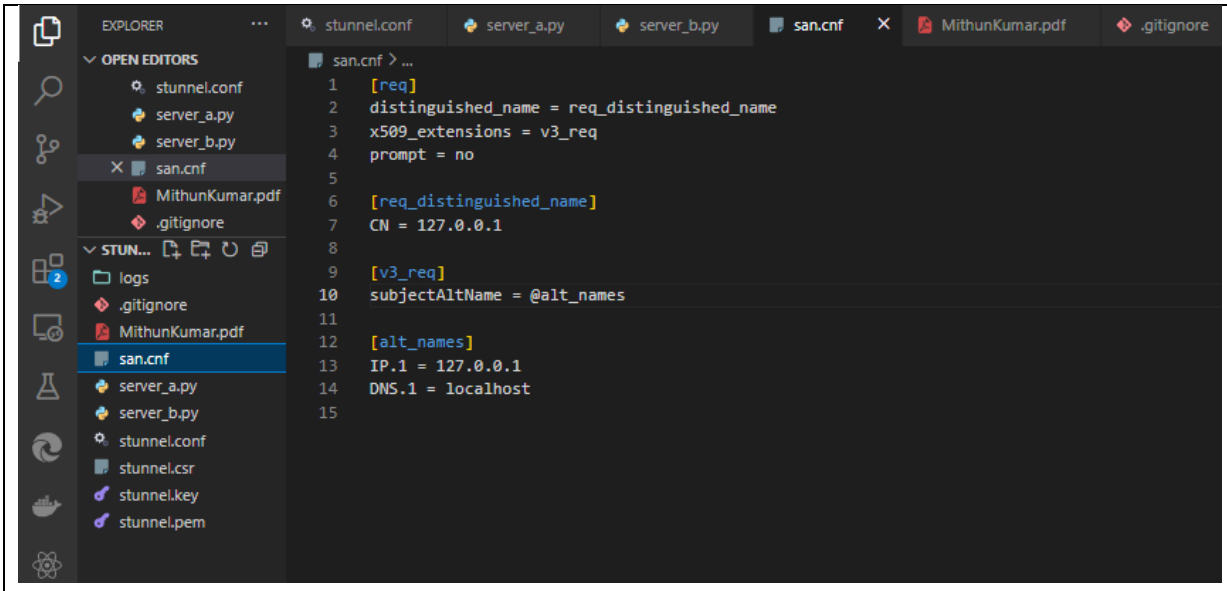
stunnel.pem
stunnel.conf > ...
; stunnel.conf
output = stunnel.log
debug = 7
; Server A - Order Requester (Client Mode)
[order_client]
client = yes
accept = 127.0.0.1:5001
connect = 127.0.0.1:6001
cert = C:\Users\ASUS\stunnel_project\stunnel.pem
key = C:\Users\ASUS\stunnel_project\stunnel.key
; Server B - Order Responder (Server Mode)
[order_server]
client = no
accept = 127.0.0.1:6001
connect = 127.0.0.1:7001
cert = C:\Users\ASUS\stunnel_project\stunnel.pem
key = C:\Users\ASUS\stunnel_project\stunnel.key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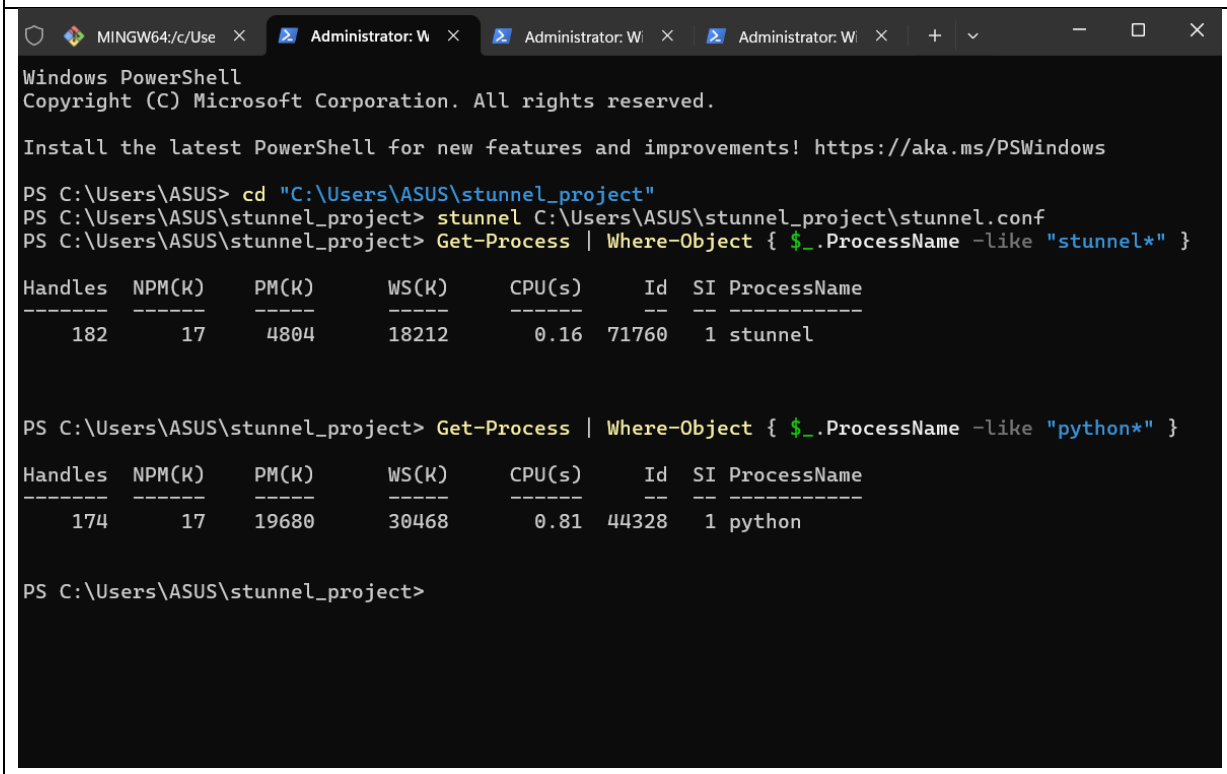
san.cnf > ...
1 [req]
2 distinguished_name = req_distinguished_name
3 x509_extensions = v3_req
4 prompt = no
5
6 [req_distinguished_name]
7 CN = 127.0.0.1
8
9 [v3_req]
10 subjectAltName = @alt_names
11
12 [alt_names]
13 IP.1 = 127.0.0.1
14 DNS.1 = localhost
15


MINGW64:/c/Use
Administrator: W
Administrator: Wi
Administrator: Wi
Windows PowerShell
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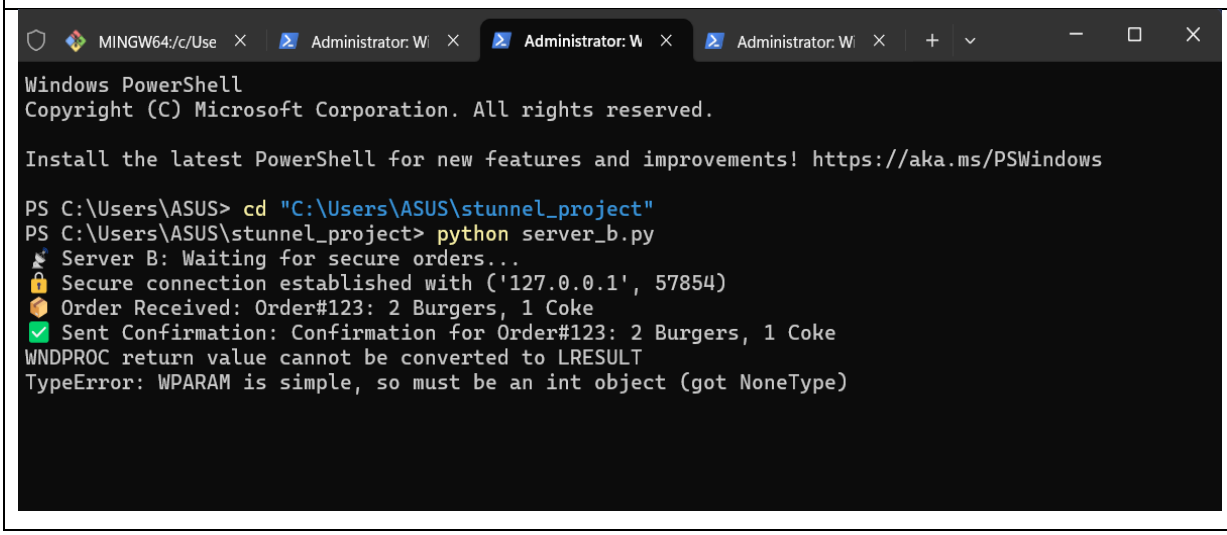
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\ASUS> cd "C:\Users\ASUS\stunnel_project"
PS C:\Users\ASUS\stunnel_project> stunnel C:\Users\ASUS\stunnel_project\stunnel.conf
PS C:\Users\ASUS\stunnel_project> Get-Process | Where-Object { $_.ProcessName -like "stunnel*" }
Handles NPM(K) PM(K) WS(K) CPU(s) Id SI ProcessName
182 17 4804 18212 0.16 71760 1 stunnel
PS C:\Users\ASUS\stunnel_project> Get-Process | Where-Object { $_.ProcessName -like "python*" }
Handles NPM(K) PM(K) WS(K) CPU(s) Id SI ProcessName
174 17 19680 30468 0.81 44328 1 python
PS C:\Users\ASUS\stunnel_project>


MINGW64:/c/Use
Administrator: Wi
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Administrator: Wi
Windows PowerShell
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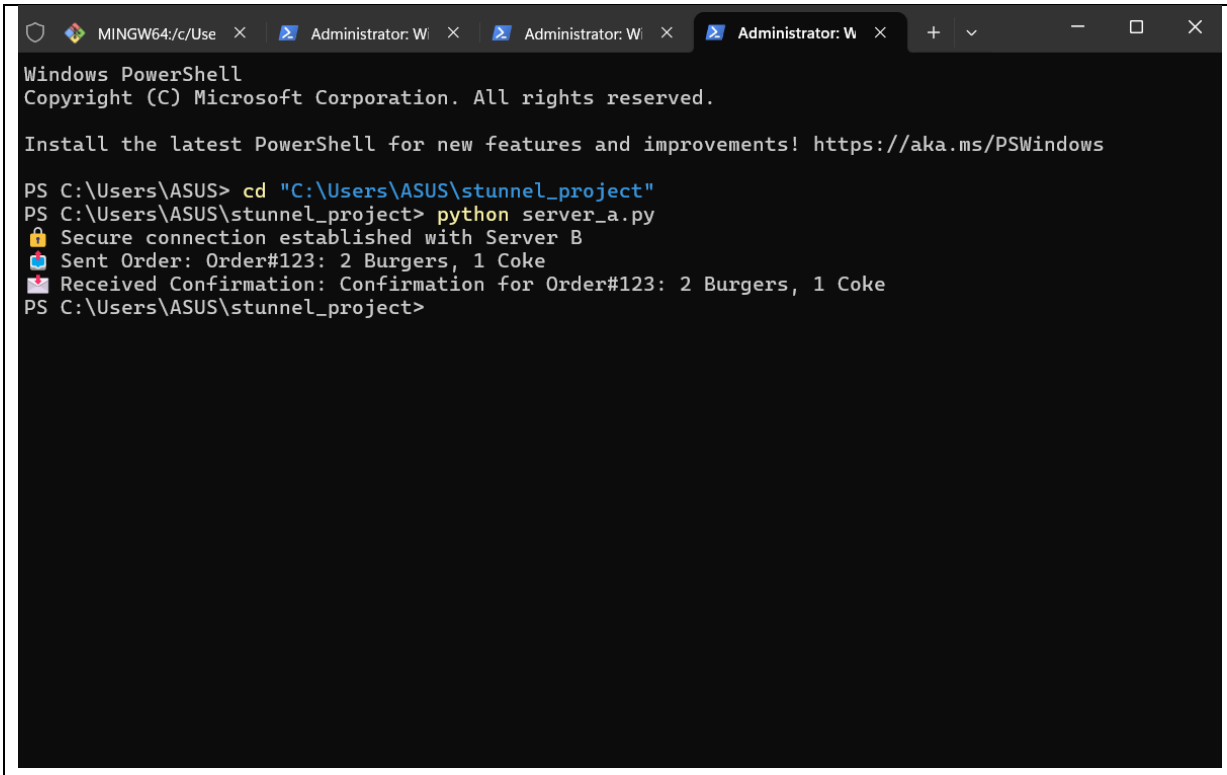
PS C:\Users\ASUS> cd "C:\Users\ASUS\stunnel_project"
PS C:\Users\ASUS\stunnel_project> python server_b.py
Server B: Waiting for secure orders...
Secure connection established with ('127.0.0.1', 57854)
Order Received: Order#123: 2 Burgers, 1 Coke
Sent Confirmation: Confirmation for Order#123: 2 Burgers, 1 Coke
WNDPROC return value cannot be converted to LRESULT
TypeError: WPARAM is simple, so must be an int object (got NoneType)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Administrator: Wi
Administrator: Wi
Administrator: W
Windows PowerShell
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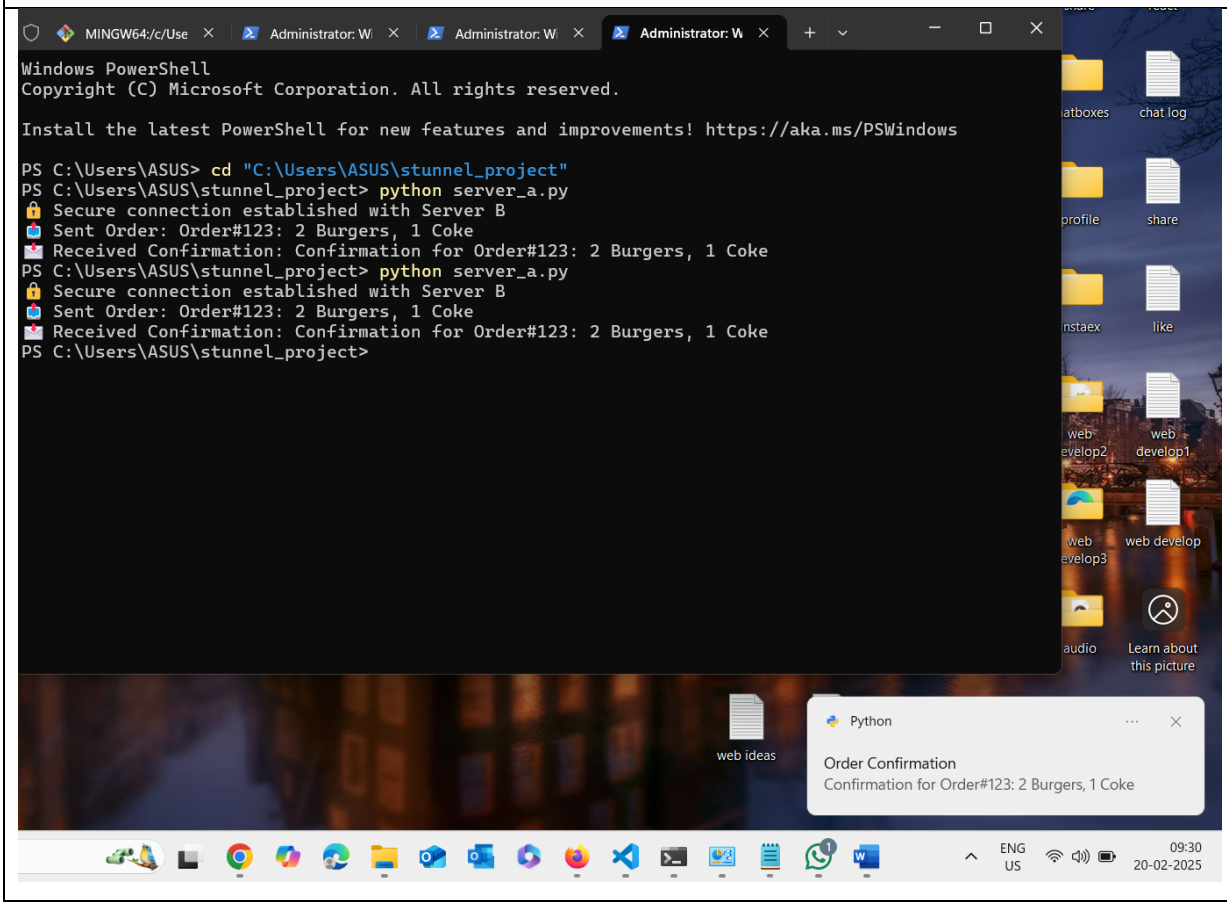
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\ASUS> cd "C:\Users\ASUS\stunnel_project"
PS C:\Users\ASUS\stunnel_project> python server_a.py
🔒 Secure connection established with Server B
📤 Sent Order: Order#123: 2 Burgers, 1 Coke
📩 Received Confirmation: Confirmation for Order#123: 2 Burgers, 1 Coke
PS C:\Users\ASUS\stunnel_project>


MINGW64:/c/Use
Administrator: Wi
Administrator: Wi
Administrator: W
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PS C:\Users\ASUS> cd "C:\Users\ASUS\stunnel_project"
PS C:\Users\ASUS\stunnel_project> python server_a.py
🔒 Secure connection established with Server B
📤 Sent Order: Order#123: 2 Burgers, 1 Coke
📩 Received Confirmation: Confirmation for Order#123: 2 Burgers, 1 Coke
PS C:\Users\ASUS\stunnel_project> python server_a.py
🔒 Secure connection established with Server B
📤 Sent Order: Order#123: 2 Burgers, 1 Coke
📩 Received Confirmation: Confirmation for Order#123: 2 Burgers, 1 Coke
PS C:\Users\ASUS\stunnel_project>
chat log
share
like
web develop1
web develop
Learn about this picture
web ideas
Python
Order Confirmation
Confirmation for Order#123: 2 Burgers, 1 Coke
ENG US
09:30
20-02-2025